

PATENT COOPERATION TREATY

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From the INTERNATIONAL SEARCHING AUTHORITY

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Bien reçu merci
received with thanks

INVITATION TO PAY ADDITIONAL FEES

(PCT Article 17(3)(a) and Rule 40.1)

Date of mailing (day/month/year)	15/04/2004
Applicant's or agent's file reference U180.12PC.11	PAYMENT DUE within 30 100 days from the above date of mailing
International application No. PCT/IB 03/00332	International filing date (day/month/year) 09/01/2003
Applicant UNIVERSITY OF LAUSANNE	

1. This International Searching Authority

- (i) considers that there are 14 (number of) inventions claimed in the international application covered by the claims indicated ~~XXXX~~ on the extra sheet:

and it considers that the international application does not comply with the requirements of unity of invention (Rules 13.1, 13.2 and 13.3) for the reasons indicated ~~XXXX~~ on the extra sheet:

- (ii) ☒ has carried out a partial international search (see Annex) ☐ will establish the international search report on those parts of the international application which relate to the invention first mentioned in claims Nos. 1-7, 17-30 completely, 8-10 partially
- (iii) will establish the international search report on the other parts of the international application only if, and to the extent to which, additional fees are paid


2. The applicant is hereby invited, within the time limit indicated above, to pay the amount indicated below:

EUR 945.00 x 13 = EUR 12.285.00
Fee per additional invention number of additional inventions total amount of additional fees

Or, _____ x _____ = _____

The applicant is informed that, according to Rule 40.2(c), the payment of any additional fee may be made under protest, i.e., a reasoned statement to the effect that the international application complies with the requirement of unity of invention or that the amount of the required additional fee is excessive.

3. ☒ Claim(s) Nos. further info have been found to be unsearchable under Article 17(2)(b) because of defects under Article 17(2)(a) and therefore have not been included with any invention.

Name and mailing address of the International Searching Authority  European Patent Office, P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer Florence Jouteux
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FURTHER INFORMATION CONTINUED FROM PCT/SA/ 206

Continuation of Box 3.

As far as claims 25-30 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-7, 17-30 completely, 8-10 partially

peptides comprising sequence of Seq ID No. 2 i.e. the sequence SX'SP!V'GL!XPPSPRP, nucleic acid encoding it, the vector comprising the nucleic acid, and the cell comprising the vector, composition comprising the peptide and methods using peptide. This includes peptides comprising sequence of Seq ID No. 5, i.e. the sequence XSXVGX covalently linked to sequence of Seq ID No. 36, i.e. the sequence XRKKRRQRRRX

2. claims: 8-10 partially

peptides comprising sequence of Seq ID No. 6, i.e. the sequence PPSRP covalently linked to sequence of Seq ID No. 36, i.e. the sequence XRKKRRQRRRX and peptides comprising the sequences of Seq ID Nos 7-11 having a common SPR core sequences as far as they do not fall under scope of an invention mentioned above

3. claims: 8-16 partially

peptides comprising the sequence of Seq ID No. 12, i.e. GQPFSPFS as far as they do not fall under scope of an invention mentioned above

4. claims: 8-16 partially

peptides comprising the sequence of Seq ID No. 14, i.e. SPPSNL as far as they do not fall under scope of an invention mentioned above

5. claims: 8-16 partially

peptides comprising the sequence of Seq ID No. 15, i.e. FNPWSSKPSLL as far as they do not fall under scope of an invention mentioned above

6. claims: 8-16 partially

peptides comprising the sequence of Seq ID No. 16, i.e. NASVGNDSHSH as far as they do not fall under scope of an invention mentioned above

7. claims: 8-16 partially

peptides comprising the sequence of Seq ID No. 17, i.e. EHMAITYPFRP as far as they do not fall under scope of an invention mentioned above

8. claims: 8-10 partially

peptides comprising the sequence of Seq ID No. 22, i.e. the sequence XGVXS covalently linked to sequence of Seq ID No. 36, i.e. the sequence XRKKRRQRRRX as far as they do not fall under scope of an invention mentioned above

9. claims: 8-10 partially

peptides comprising the sequence of Seq ID Nos 18-21 and 23-28 having the core sequence RPS covalently linked to sequence of Seq ID No. 36, i.e. the sequence XRKKRRQRRRX as far as they do not fall under scope of an invention mentioned above

10. claims: 8-10 partially

peptides comprising the sequence of Seq ID No. 29, i.e. the sequence SFPSFFPQG covalently linked to sequence of Seq ID No. 36, i.e. the sequence XRKKRRQRRRX as far as they do not fall under scope of an invention mentioned above

11. claims: 8-10 partially

peptides comprising the sequence of Seq ID Nos 30-31, i.e. the sequence LNSPP covalently linked to sequence of Seq ID No. 36, i.e. the sequence XRKKRRQRRRX as far as they do not fall under scope of an invention mentioned above

12. claims: 8-10 partially

peptides comprising the sequence of Seq ID No. 32, i.e. the sequence LLSPKSWPNF covalently linked to sequence of Seq ID No. 36, i.e. the sequence XRKKRRQRRRX as far as they do not fall under scope of an invention mentioned above

13. claims: 8-10 partially

peptides comprising the sequence of Seq ID No. 33, i.e. the sequence HSHSDNGVSAN covalently linked to sequence of Seq ID No. 36, i.e. the sequence XRKKRRQRRRX as far as they do not fall under scope of an invention mentioned above

14. claims: 8-10 partially

peptides comprising the sequence of Seq ID No. 34, i.e. the sequence PRFPYTLAMHG covalently linked to sequence of Seq ID No. 36, i.e. the sequence XRKKRRQRRRX as far as they do not fall under scope of an invention mentioned above

The subject of the underlying claims are peptides which bind to SH3 domains and thereby inhibit c-Jun terminal kinase (JNK). The claims also cover said peptides covalently linked to a trafficking peptide like the HIV TAT sequence which enables transport of the peptides through plasma membranes.

The peptides of claims 1, 8, 11, 17 and 20 would be regarded as falling under the same inventive concept if the alternative compounds had a common property or activity (requirement A), and shared a significant structural element (requirement B1) that is essential to the common property or activity (see example 35 in paragraph 10.55 of PCT guidelines). If the condition of the shared significant structural element cannot be the unifying criteria, it can be replaced by the requirement that the compounds must belong to a recognized class of chemical compounds (requirement B2) (see paragraph 10.17 of PCT guidelines).

The compounds of the underlying application share a common property and activity, i.e. they selectively block the branch of JNK signalling pathway and inhibit the c-jun terminal kinase. This activity is linked to the fact that the peptides bind to SH3 domains (page 2, 1st paragraph). The above mentioned requirement A is thus fulfilled.

Not all compounds share a significant structural elements because they do not share the same core amino acid sequence. On page 6, 3rd and 4th paragraph disclose that peptides having the common property of binding to SH3 domains were identified by panning a phage display library. It is further mentioned that two amino acid sequence motifs i.e. SXSVGX and PPSRP were thus discovered.

Another common structure shared by some of the peptides is the trafficking peptide. However the trafficking peptide alone does not have the common property of binding to SH3 domains and of inhibiting c-jun terminal kinases.

Because no other structural element other than the amino acid sequence is mentioned and discussed throughout the application which could convey the common property or activity, the ISA could not identify a significant structural element shared by all peptides. Requirement B1 is thus not fulfilled.

The requirement B1 can be replaced by requirement B2, if all the compounds belong to a recognized class of chemical compounds. Initially this could be fulfilled because all compounds are peptides. But paragraph 10.17 (c) of the PCT guidelines further elaborates that the words recognized class of chemical compounds mean that there is an expectation from the knowledge in the art that members of the class will behave in the same way in the context of the claimed invention?. As other peptides and proteins certainly will not have the property to bind to SH3 domains and inhibit c-jun terminal kinases, it must be concluded that requirement

B2 is not fulfilled, too.

Therefore no special technical structural feature exists among the peptides of underlying claims. The fact that all the peptides have a common property is not sufficient to establish unity of invention (see paragraph 10.17 PCT guidelines). Hence the underlying set of claims does not meet the requirements of Rules 13.1 and 13.2 PCT.

Regarding that every one of the subjects distinguished requires a separate search for the concept and the covered compounds in databases and partially in the classified documentation the ISA considers that paragraph 10.64 PCT guidelines, regarding a complete search with negligible additional work, is certainly not applicable.

1. The present communication is an Annex to the invitation to pay additional fees (Form PCT/ISA/206). It shows the results of the international search established on the parts of the international application which relate to the invention first mentioned in claims Nos.:
2. This communication is not the international search report which will be established according to Article 18 and Rule 43. see 'Invitation to pay additional fees'
3. If the applicant does not pay any additional search fees, the information appearing in this communication will be considered as the result of the international search and will be included as such in the international search report.
4. If the applicant pays additional fees, the international search report will contain both the information appearing in this communication and the results of the international search on other parts of the international application for which such fees will have been paid.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01/27268 A (UNIV LAUSANNE ; BONNY CHRISTOPHE (CH)) 19 April 2001 (2001-04-19) the whole document	1-10, 17-30
X	BONNY C ET AL: "Cell-permeable peptide inhibitors of JNK: novel blockers of beta-cell death." DIABETES. JAN 2001, vol. 50, no. 1, January 2001 (2001-01), pages 77-82, XP002274267 ISSN: 0012-1797 the whole document	1-10, 17-30
P,A	WO 02/081504 A (UNIV JEFFERSON) 17 October 2002 (2002-10-17) see Seq ID NO 9 in table 1; claim 5; table 1	11-14, 16
P,A	WO 02/081505 A (WIESEHAN KATJA ; WILLBOLD DIETER (DE); IMB INST FUER MOLEKULARE BIOTE) 17 October 2002 (2002-10-17) see peptide SVSVGMPKSPRP in figure 1 figure 1	11-16

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Patent Family Annex

Information on patent family members

International Application No

PCT/IB 03/00332

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0127268	A	19-04-2001	US 6610820 B1	26-08-2003
			AU 7938200 A	23-04-2001
			CA 2387184 A1	19-04-2001
			EP 1303600 A2	23-04-2003
			WO 0127268 A2	19-04-2001
			JP 2003511071 T	25-03-2003
			US 2003220480 A1	27-11-2003
			US 2002127676 A1	12-09-2002
			US 2003108539 A1	12-06-2003
WO 02081504	A	17-10-2002	CA 2442909 A1	17-10-2002
			EP 1373308 A2	02-01-2004
			WO 02081504 A2	17-10-2002
			US 2003013844 A1	16-01-2003
WO 02081505	A	17-10-2002	DE 10117281 A1	24-10-2002
			WO 02081505 A2	17-10-2002
			EP 1379546 A2	14-01-2004